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### Firm Culture and Leadership as Firm Performance Predictors

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**FIRM CULTURE AND LEADERSHIP AS FIRM  
PERFORMANCE PREDICTORS: A RESOURCE-  
BASED PERSPECTIVE**

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**FIRM CULTURE AND LEADERSHIP AS FIRM PERFORMANCE PREDICTORS:  
A RESOURCE-BASED PERSPECTIVE**

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# **FIRM CULTURE AND LEADERSHIP AS FIRM PERFORMANCE PREDICTORS:**

## **A RESOURCE-BASED PERSPECTIVE**

### **Abstract**

In this study, we tested part of the resource-based view of the firm by examining two ‘soft’ resources, firm culture and top leadership, as predictors of ‘hard’ or bottom-line firm performance.

Transformational top leadership was found to predict firm performance directly while the link between firm culture and firm performance was indirect: via transformational top leadership. Firm culture was operationalized as the employees’ views about the degree of optimization of four organizational practices (job autonomy, external orientation, interdepartmental orientation, and human resource orientation). We conclude that, rather than strong cultures, firms need best organizational practices and transformational leadership.

# **FIRM CULTURE AND LEADERSHIP AS FIRM PERFORMANCE PREDICTORS:**

## **A RESOURCE-BASED PERSPECTIVE**

If asked to identify internal predictors of high firm performance, most economists would say that a firm needs managers who work hard and smart. Organizational scholars would argue that economists need more, mainly intangible, pieces to solve the puzzle of the organizational (black) box (see, e.g., Freeland, 1999; and Pfeffer, 1997). In this article, we argue that two intangible intra-firm resources, culture and top leadership, predict performance differences between firms. Given the popularity of the constructs ‘culture’ and ‘leadership,’ one would expect to find many accounts, empirical and/or conceptual, of the joint performance effects of firm leadership and culture. Academic work in which both the organizational culture and leadership factors are explicitly differentiated is, however, quite scarce. This is all the more remarkable given that especially the popular business press and even textbooks are replete with notions suggesting that a *strong* culture and *strong* leadership are crucial to the success of a firm (e.g., Liebowitz, 1998). We think that a much more specific content of firm culture and leadership is predictive of firm success. Before introducing this specific content, we present three ‘anchors’ of our study. They comprise the work of influential authors and underscore the relevance of an answer to our main research question: Are firm culture and top leadership predictive of firm performance?

The first anchor is Schein’s landmark study on organizational culture (1985, and its 1992 2<sup>nd</sup> edition). In this book, which is conceptual and anecdotal in nature, Schein argues that ‘the unique talent of leaders is their ability to understand and work with culture:’ ‘leadership and culture are two sides of the same coin’ (Schein, 1992: 5, 1, respectively). He claims that both variables have a great impact on organizational effectiveness.

The second anchor is Barney’s (1986) work on culture. He argues that only if a firm culture is relatively rare, imperfectly imitable, non-substitutable, and valuable will it lead to high or sustainable firm performance. These conditions seem impossible to operationalize (for attempts, see Duncan,

Ginter, & Swayne, 1998; Foss, 1997). Moreover, Barney does not answer the crucial question: What makes an organization's culture valuable (Porter, 1994)? Barney did suggest (1991: 102) that a 'value-creating strategy' is selected by top management: '...managers are important...for it is managers who are able to understand and describe the economic performance potential of a firm's endowments....' Indeed, it may be the case that a manager or a managerial team is a firm resource that has the potential for generating sustained competitive advantages' (Barney, 1991: 117).

Our third anchor is the work of Edith Penrose (1959). She regards the firm as a collection of productive resources; the organization is 'to create cohesion between the firm's -in particular, human-resources' (Pitelis & Wahl, 1998: 256). She is considered the first to have opened the economists' black box and is regarded as the 'mother' of the resource-based view of the firm. Thus far, only a handful of empirical resource-based studies have been carried out. Although not formally contributing to this emerging theory, the most stunning supporting results were obtained by Hansen and Wernerfelt (1989: 399/409): 'organizational factors explain about twice as much variance in profit rates as economic factors.' They conclude that intangible attributes of a firm (in their terms, '...the building of an effective, directed human organization...') are crucial for its performance. The present study can be seen as an attempt to further specify their conclusion.

We surveyed the personnel of 58 locally owned banking firms in the Netherlands on firm culture and top leadership. These firms work under the umbrella of one of the largest Dutch financial institutions. We obtained two years of objective performance data on these firms, one for the same survey year plus one two years later. Hence, we have a research design that allows a test of firm culture and top leadership as predictors of firm performance. Thus, our study is one of those 'new studies of intangible capital' recommended by Pennings, Lee, and van Witteloostuijn (1998: 438) where 'the content of broadly defined human and social capital' is related to firm performance differences.

## CONCEPTUAL BACKGROUND

One of the most basic assumptions of the emerging resource-based theory of the firm is that a firm's internal intangible resources do matter when it comes to explaining a firm's competitive success. Exactly which of these resources -and their content- matter, whether they are connected and, if so, how, is still unknown. These are the theoretical issues addressed in this study. Of the various internal intangible resources that have been put forward by resource-based theorists to explain sustainable firm success, we concentrate on two: 'organizational' and 'human' resources (Barney & Hesterly, 1996: 133). We argue that firm culture (as an example of organizational capital) and top leadership (as an example of human capital) are two different 'complex, interconnected resources' that matter for firm success (Hunt, 1997: 688; see also Tomer, 1987; 1999). Further on in this Introduction, we argue that the specific content of both resources matter as well (Penrose, 1959).

### **Does Firm Culture Predict Firm Performance?**

Organizational culture is mentioned or considered important in nearly all treatments of the resource-based view of the firm (e.g., Barney & Hesterly, 1996; Conner & Prahalad, 1996; Foss, 1997). Yet, to date no single organizational study has confirmed the theoretically prominent role of this resource (Rouse & Daellenbach, 1999). Denison's study (1984) is the first of a body of empirical literature focussing on the *direct* performance effects of organizational culture. Wilderom, Glunk, and Maslowski (2000) critically analyzed the ten major studies. Weaknesses are: a) questionable operationalizations of the constructs (for example, each of Denison and Mishra's (1995) four culture scales consist of only two items); b) ambiguity about the direction of the C-P relationship (only three of the ten studies report objective performance data that were obtained after culture was assessed); c) no use of control variables (with the exception of Koene, 1996); d) relatively small sample sizes (in six of the ten studies, the number of participating organizations ranged from 5 to 34); and e) samples consisting of personnel not representative of entire organizational cultures (mainly managers). None of the ten studies showed a solid predictive performance effect of culture. Wilderom et al. (2000) suggests

the study of an indirect effect between firm culture (C) and firm performance (P). It is this indirect link that we postulate now. We have not found any serious consideration or systematic examination of this proposition in the literature. Some writings, nevertheless, support this effect.

Siehl and Martin (1990: 270) argued against a direct C-P effect. Instead they suggest: 'Culture might impact financial performance indirectly, through such variables as productivity, quality control, turnover, or absenteeism.' Pettigrew (1990: 430) submits that '...culture does not provide a direct explanation of performance: it is only one component of a much more complex set of relationships that the process of competition contains' (see also Brown, 1998; Lim, 1995; Saffold, 1988). Trice and Beyer (1993: 21) did not treat the C-P linkage at length; culture is 'not necessarily the key to success' (underlining ours). Outcomes of the various Lisrel studies conducted by Marcoulides and Heck (1993: 222) as well as Koene (1996) suggest that 'an organization's value system affects organizational performance indirectly.' Penrose's new foreword to the third edition of her classic study (1995: xviii) also refers to the limits of culture: 'But...the strongest social and cultural ties may be insufficient to support the coherence of the firm.' Clearly, even though she does not dismiss a culture's importance, culture<sup>1</sup> by itself does not, in her view, lead to high firm performance.

In our view, existing organizational cultures, in and of themselves, cannot generate the desired outcomes of organizations. If a culture is virtuous, which we assume it to be when a firm's culture is credited with high performance outcomes; human agents must have made use of these virtues. Cultures without such human agents are like boats without a crew; they may reach their destinations only by chance. Hence, human agents in an organization's culture must always be included in explanations of organizational success; we can call this the 'interactive nature of culture' (Saffold, 1988: 555). This reasoning underlies our postulation of an indirect predictive link between a firm's culture (C) and its performance (P).

Proposition 1: Firm culture is *indirectly* related to firm performance.



## **Firm Culture and Leadership: Interconnected?**

If we assume that a firm's culture plays a role in its performance and, furthermore, that this role is an indirect one, the key question is then: What kind of phenomenon is powerful enough to direct a firm's cultural energy into high performance? Note that we presuppose the 'visible hands' of human agents. We believe that top leadership can provide targets towards which the potential of a firm's culture can be directed. The human capital embedded in the top leadership of a firm can thus use its cultural virtues or capital to the (competitive) advantage of the firm itself.

Early academic texts on organizational culture (i.e., between 1975 and 1984, see Barley, Meyer, & Gash, 1988: 44) 'rarely mentioned the idea...that people could control culture.' Since the mid-eighties, it is believed that founders of firms imprint their organizations' characters (Schein, 1983; Siehl, 1985). Beyond this widespread assumption, the systematic study of firm leadership that affects its culture is rare (Bass, 1990; Staw & Sutton, 1993; O'Reilly, Chatman, & Caldwell, 1991). Since our present study deals with existing firm cultures --as different from the cultures of newly emerging firms-- and considering that most top leadership appointments take place within existing cultures, we give emphasis to how a given firm culture may affect its top leadership. Of course, top leadership can affect an organization's culture as well. But since we have no data that allow us to examine the ways top leadership (L) maintain and /or change these cultures (C), we refrain from explicitly addressing the L-C direction.

A firm's culture may affect top leadership in two ways. First, most top leaders are recruited from the ranks of individuals who appear to best represent the existing or aspiring culture. We assume that in firms with cultures that are highly virtuous, the culture allows great care in issues of leadership succession: the new leadership will be well matched with the existing and/or aspiring culture, thus producing a significantly productive relation between both intangible resources. Secondly, an organization's culture is an organizational resource that shapes managerial perceptions of events that in turn affect top leaders' strategic decisions (see, e.g., Pettigrew, 1990); The latter illustrates Weick's

(1985: 383) overstatement: that ‘strategy and culture may be substitutable for one another.’ Compared to Weick’s position, Penrose’s view is more managerially astute: she notes that ‘culture and strategy...may serve a common function’ (Penrose, 1995, xviii; see also Schein, 1985). It is widely held that both functions ought to be well aligned, but how specifically is not known (Bluedorn & Lundgren, 1993; Brown, 1998). Overall, ‘the part that leadership plays in organizational cultures has not been systematically explored’ (Trice & Beyer, 1993: 255).

Most of the existing organization-culture literature shows a blurring of our two constructs. Even in the published operational definitions of organizational culture, leadership content is often included.<sup>2</sup> Yet, there are three important differences between the constructs. Firstly, leadership relates to behavior displayed mostly by one or a few individuals while culture is a collective phenomenon. Secondly, leadership is purposefully aimed at influencing other people or agents. What is unique in leadership is that it involves a (potentially one-sided) dependency relation. Two ‘important aspects of leadership as a phenomenon’ are shared with that of culture: ‘a social process defined through interaction’ as well as ‘a process of defining reality’ (Smircich & Morgan, 1982: 259). This conceptual sharing may explain people’s blurring of our two key constructs.

Viewed from the resource-based perspective, what is the value of distinguishing between our two intrafirm intangibles, culture and leadership? In the resource-based literature, one can note a huge variety of terms, denoting all sorts of labels for intangible intrafirm resources (Lado & Wilson, 1994).<sup>3</sup> Thomas and Pollock (1999: 136) aptly note this as the weakness of the emerging theory. Given that firm culture and leadership are intangible intra-organizational resources that are separately rooted in rich social-scientific traditions, empirical study with both variables may strengthen the emerging resource-based theory of the firm. The near lack of empirical attention to the distinction between culture and leadership (see also Pfeffer, 1997), plus the great array of often ill defined terms for internal intangible organizational resources, led to our second proposition. This proposition is also rooted in Penrose’s theoretically important distinction between ‘inputs’ in the production process: ‘...resources consists of a

bundle of potential services and can ... be defined independently of their use...' (Penrose, 1959: 54, underlining ours). Thus, in order to help disentangle firm culture from leadership, we formulate the following proposition:

Proposition 2: There is an association between firm culture and top leadership.

### **Transformational Top Leadership Style**

Thus far, we have considered our independent variables regardless of their content characteristics. But not all blends of firm culture and top leadership predict high firm performance. In Penrose's (1959: 25) words: 'Strictly speaking, it is never *resources* themselves that are the 'inputs' in the production process, but only the *services* that the resources can render.' 'Exactly the same resource when used for different purposes or in different ways and in combination with different types or amounts of other resources provides a different service or set of services.' We will now start to address the content of our two intrafirm resources or, in Penrosian language, the firm-performance service that both firm culture and leadership can render. We will first consider firm-effective top leadership.

Especially outside the purview of the resource-based view of the firm, the impact of top leaders on firm success has received quite a bit of attention (see, e.g., Finkelstein & Hambrick, 1996; Thomas, 1988). Upper-echelon theory submits, essentially, that 'managerial background characteristics' affect a firm's outcomes (Hambrick & Mason, 1984: 193). Boone, Brabander, and van Witteloostuijn (1996) criticize this literature for its relative lack of attention to the unobservable or intangible characteristics of top management (see also, e.g., Waldman & Yammarino, 1999). Nahavandi and Malekzadeh (1993: 420) reviewed firm strategy-performance studies in terms of top leadership style.<sup>4</sup> They endorse as most 'promising' the transformational style. This style is central to the so-called 'attributional' (Trice & Beyer, 1993: 257) or 'new leadership' approach (Bryman, 1992), the successor to the contingency approach. For the extant empirical support for firm performance as a function of this leadership style, we refer to Bass (1998), House et al. (1999), Lowe, Kroeck, and Sivasubramaniam (1996), Waldman and Yammarino (1999), and Yukl (1998).

Following Burns (1978), transformational-style leaders not only raise the consciousness of their followers about the importance of outcomes; they also arouse their followers' emotion for this cause. Robert House's Globe study recently established some universality for this style (den Hartog et al., 1999; see also Bass, 1996; 1998) and they relabeled the style as 'value-based' (House, 1999; House & Shamir, 1993). We prefer to stick to Bass' term 'transformational,' in part because highly effective leaders must substantially change or *transform* available energy in a system in order to do very well (see also Peters & Waterman, 1982: 82). The key content question is how they do this. According to Bass, they do this through four behavioral clusters: Charisma, Inspiration, Intellectual stimulation, and Individualized consideration. However, the first two clusters are often collapsed into one (Bass, 1995; 1998; Lowe et al., 1996). Similarly, most independent studies find merely one composite transformational factor while confirming evidence for the four-factor structure of Bass' transformational questionnaire is limited, especially outside North America (Carless, 1998; den Hartog, 1997; den Hartog, van Muijen, & Koopman, 1994; Geyer & Steyrer, 1998; Tracey & Hinkin, 1998). Furthermore, the sub-scales 'Intellectual stimulation' and 'Individual consideration' are largely defined and operationalized by interpersonal behavior between individual followers and an individual leader. In our case, where we assess the style of top *leadership* among a cross section of the entire personnel, such interpersonal behaviors cannot be well assessed. This is simply because only a small part of the responding employees interact directly with one or more members of the top leadership (Lowe et al., 1996). Thus, we employed only a part of Bass' transformational questionnaire.

We detected two themes in the notion of transformational top leadership as reflected in Bass and Avolio's operationalization (1989, MLQ-8Y). The first pertains to formulating a viable new organizational vision or mission. Secondly, many items in the MLQ stress the high competence levels of those in top leadership positions. We believe that the two themes do not easily form two separate, psychometrically tenable sub-scales. They represent managerial processes that are highly 'interwoven' (Yukl, 1998, 57). In order for an organizational mission to be appealing to its personnel, top leaders

have to be perceived as credible. This creates employee commitment to the vision/mission, plus, vice versa: an appealing mission will add to the attribution of highly competent top leadership (in Daft's terms: 'mobilization of commitment:' see also, e.g., Boehnke, DiStefano, DiStefano, & Bontis, 1997). In addition, because Charisma and Inspiration has always been 'the largest component of variance in transformational leadership' (Bass, 1998: 169), we conclude that top leadership that is viewed by the employees as both visionary and highly competent can be legitimately labeled 'transformational,' and is most firm effective. Based on the foregoing, we arrived at the first hypothesis.

Hypothesis 1: Transformational top leadership style predicts high firm performance.

**Strong Culture vs. Best Work Practices**

Many writers and consultants endorse firm cultures in which the employees have the same basic organizational values and norms. This popularity of the *strong-culture hypothesis*<sup>5</sup> is fed by a stream of anecdotal material or studies with obvious methodological shortcomings (see, e.g., Hibbard, 1998; White, 1998). Academic evidence is limited to a few studies; Denison (1990), Calori and Sarnin (1991), and Gordon and DiTomaso (1992: 783) report an association between a strong firm culture and short-term firm performance. Yet, the frequently cited large study by Kotter and Heskett (1992) finds strength predictive of *long-term* performance. Brown (1998), O'Reilly and Chatman (1996) and Wilderom et al. (2000) critically review these studies. They show that these empirical studies lack a clear connection between conceptual and operational definitions of organizational culture (strength).

As is the case with many academic authors, we consider the culture-strength variable too limited for a phenomenon as broad and deep as firm culture (Kotter & Heskett, 1992; Kunda, 1992; Saffold, 1988; Schein, 1985/1992); a firm's character is idiosyncratic. Characters, therefore, cannot be *easily* measured or standardized across firms. The only comparable part of a firm's culture that is assessed in most quantitative firm-culture studies is organizational practices (Hofstede, Neuijen, Ohayv, & Sanders, 1990) in which the focus is on the degree to which a particular set of organizational practices is in place. Use of these practices has typically not been well legitimized. For instance, within single studies, some

practices are ‘best’ organizational practices, other practices are not (Calori & Sarnin, 1991; Hofstede et al., 1990; Marcoulides & Heck, 1993; Petty, Beadless, Lowery, Chapman & Connell, 1995; Rousseau, 1990). None of these studies explicitly derive a focus on organizational work practices from a compatible conceptual definition of organizational culture. In quantitative assessments of organizational culture, one does indeed need to assess the action itself, i.e., the common work behaviors or organizational practices (Hofstede et al., 1990). Moreover, organizations and, by implication, organizational cultures are supposed to be well functioning work settings. How well the organizational work practices function is, therefore, crucial. This emphasis on a firm’s degree of sub-optimal organizational work practices in place does not mean a neglect of the employees’ points of view. Capturing the reactions of a representative sample of employees is often not convenient (e.g., Calori & Sarnin, 1991) but is part and parcel of an assessment of a firm’s culture. We define organizational or firm culture *as the degree to which the employees evaluate that ‘best’ organizational work practices are in place*. Culture strength, as reflected in most operationalizations of the construct, indicates only the degree of employee *consensus* on organizational work practices. Such consensus information does not indicate how well the organizational practices work. Whereas the aggregate of individual employee reactions to ‘best’ organizational work practices may indicate organizational or firm culture, employee consensus on the existence of certain practices may indicate the level of collective causal ambiguity regarding these practices (see, e.g., Reed & DeFillippi, 1990).

How do we define ‘organizational practices’? We adopt a short version of Kostova’s (1999: 309) definition: ‘particular ways of conducting organizational functions that have evolved over time...’ These ‘practices reflect the shared knowledge and competence of the organization...they tend to be...viewed as the taken-for-granted way of doing certain tasks.’ Given this definition’s emphasis on intangible factors that are typically taken for granted, this definition fits the resource-based perspective on firm culture. Note that we speak not merely of ‘organizational practices’ but of organizational *work* practices. We

thereby emphasize practices that relate to day-to-day intra-organizational work operations. Peripheral practices such as ‘corporate giving’ (Kostova, 1999: 310) are not emphasized.

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Insert Table 1 about here  
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In this study, we chose practice dimensions that vary greatly at the conceptual level and that, collectively, cover the cultural content found important in other organization-culture studies (Table 1): 1) Job autonomy, 2) External orientation, 3) Interdepartmental orientation, 4) Human resource orientation, and 5) Improvement orientation. The first dimension pertains to employees’ core tasks. We assessed the degree to which organizational members have sufficient decision latitude in their jobs. In highly centralized and formalized work settings, we find many jobs with a low level of decision latitude or job autonomy. Secondly, one cannot overlook an organization's function vis-à-vis its external environment such as customers, markets, and competitors. Open systems theory and many other writings on organizations as a whole have made it clear that an organization’s degree of external orientation is very much a part of its internal functioning. Thirdly, we included interdepartmental orientation. Horizontal differentiation raises barriers to productive intergroup communication, which tend to hinder organizational functioning. Fourthly, in many writings, one finds human-resource content as an explicit part of the organizational culture construct, for instance, in Gordon (1990: see also Gordon & DiTomaso, 1992; Marcoulides & Heck, 1993; and Quinn, 1988). Just like our four other dimensions, the human-resource dimension touches every employee. Finally, the degree of improvement orientation among personnel connotes a firm’s ambition level, a concomitant degree of commitment to high-quality work as well as a positive inclination toward organizational change (see also Rousseau, 1990). This fifth dimension was chosen in order to tap the degree of proactive employee behavior that is intended to achieve ever better organizational results.

We reason that firms with optimal organizational work practices are likely to select new leadership that is compatible with these practices. Once new leadership is in place, it will use the most

virtuous forces within and outside the firm in order to have the firm perform even better (e.g., through new appointments and promotions, selective attention to people and issues, better strategy formulation, etc.). If the behavioral style of the new leadership is transformational in nature, it also raises employee consciousness and commitment to specific firm outcomes. Its visionary and competent behavior heightens employee awareness of these outcomes and motivates and commits them to these goals. Transformational top leadership in fact amplifies a firm's culture. Hence, nearly optimal organizational work practices together with transformational top leadership will predict high firm performance. The appointment of top leadership with a transformational style in firm cultures characterized by highly sub-optimal organizational work practices may look, at first, less likely. However, if the new top leadership style is perceived as necessary (e.g., by a corporate governance body) or emerges spontaneously, the style can potentially thrive in such a culture. A focus on the significant improvement of extant organizational practices (i.e., on throughputs) may then become a part of the new leadership's vision, implementation of which may reduce the time and effort available for its focus on new organizational outcomes. In other words, transformational top leadership may get 'distracted' by sub-standard organizational work practices. Firm performance contributions of transformational top leadership in a sub-optimal firm culture may therefore not be optimal. Based on the literature and the logic underlying Propositions 1 and 2, and Hypothesis 1, we can now formulate our key Hypothesis (#2) which states that firm culture has an indirect link with firm performance.

Hypothesis 2: A firm culture with optimal organizational work practices is indirectly predictive of high firm performance through its association with a transformational top leadership style.

## **METHODS**

### **Sample and Data Collection**

One of the biggest financial institutions in the Netherlands was involved in this study. In terms of assets, this institution belongs to the top 30 largest banks in the world (Wall Street Journal, Europe, 1999). Within this institution, associated local banking firms are autonomous. They retain their original



European-style cooperative charter under which the clients (historically farmers) collectively own their local banking firm. Representatives from the 'local elites' form these firms' local boards of governors.

**Pilot study.** The sample consisted of the employees of four local banking firms and one department at the central office. Within the Netherlands, four size categories of local banking firms are commonly discerned: small, small-to-medium, medium, and large firms (up to 30 employees; 31 to 60 employees; 61 to 100 employees, and more than 100 employees, respectively). One banking firm of each type was asked to participate (in return for a feedback report); all four firms agreed to take part. The employees received a questionnaire at their place of work. Anonymity was guaranteed. The total number of respondents was 282, yielding a response rate of 59%. Their mean age was 35.7 (SD= 10.1).

**Main study.** From the population of 596 local banking firms, some were excluded from participation: very small firms (with fewer than 12 employees), recently merged firms, as well as the firms that had participated in the pilot study. In all, 535 banking firms remained. The random selection of 61 firms was stratified on the basis of the same four size categories identified in the pilot study (20, 23, 13, and 5 firms, respectively). All the employees of each of the firms selected (a total of 3258 employees) received a questionnaire and a prepaid return envelope at their home addresses. This amounted to almost 10% of the entire group of employees of all associated local banking firms. The questionnaires were filled in and returned in the two-month period of December 1995/January 1996. The response rate was 47%. Three small firms with fewer than four respondents were discarded. This was done because the standard errors of the means on the main variables were too large to allow aggregation at the firm level. The resulting sample consists of 1509 respondents from 58 local banking firms. The number of respondents per firm ranges from 5 to 75 with a mean of 26 and a median of 21.

In our sample of 58 local banking firms, 50% of the respondents were men. The mean number of years of employment was 9.8 (SD = 2.1). In this sample, 12% belonged to the management team, 27% were working in managerial and/or supervisory type of positions. The percentage of employees with a Bachelor's degree or higher was 41%. Moreover, our sample consisted of 75% respondents holding

lower level jobs and 25% holding higher level jobs. The firms in the main sample proved representative of the local banking firms within this entire financial institution. For instance, the mean age in the main sample was 35.2 (SD = 9.6) and in the population at the time 34.4. The mean firm-performance score (the measure will be described below) was 1.20 for both the main sample and the population.

## **Measures**

**Firm culture.** Our unique focus on ‘best’ organizational work practices forced us to develop a new firm-culture scale. Before the pilot survey took place, ten interviews were held in the institution at large to elicit relevant firm-culture dimensions and to formulate new questionnaire items. Each employee was asked: ‘How often is this applicable to your organization?’, followed by the items. We developed the following five scales using exploratory factor analysis on the individual level: 1. Job autonomy (5 items), 2. External orientation (8 items), 3. Intergroup orientation (5 items), 4. Human resource orientation (5 items), and 5. Improvement orientation (5 items). The Cronbach alphas of these scales were .77, .83, .86, .82, and .81, respectively. In the main study, we kept the 5 dimensions and added seven new items resulting in a list of 35 items. These new items were based on another round of interviews (including subgroup interviews of local bank employees and individual questioning). The key question in the final questionnaire heading was slightly modified: ‘To what extent does the following occur in your organization ...?’ The answer categories ranged from 1 (very rarely) to 5 (very often). In order to construct organization-level scales that are as independent as possible, a principal components factor analysis with varimax rotation was carried out. The aggregated scores of the 58 organizations were based on the mean scores of many individuals. Such means are extremely stable (Hofstede et al, 1990). The mean ICC(2) (see below) was .78. In a five-factor solution, each factor represents one of the preconceived firm-culture dimensions. The items loading higher than .50 on the intended factor were reanalyzed yielding the factor structure presented in Table 2. It was concluded that the factor structure is sound. We replicated this factor analysis on the individual level; all the items described in Table 2 had

the highest loadings on the intended factor. These results show that our firm-culture dimensions exist on both the individual and the firm level.

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Insert Tables 2 and 3 about here  
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The Cronbach alphas of the aggregated scales are shown in Table 3 and indicate that the internal consistencies of all five firm-culture scales are high. Because the final scales are constructed in the main study, the alphas may be inflated by capitalization on chance. However, the values are that high that it is unlikely that reliabilities in other samples will be low ( $< .70$ ). A precondition for aggregating data is perceptual agreement within units. The appropriate statistics for perceptual agreement are the ICC(1) and the ICC(2) (James, 1982). The ICC(1) is a form of intraclass correlation. The statistic indicates the part of the variance of the individual perceptual scores explained by classes and might be interpreted as the reliability of a single rating. James reported a median of approximately .12 in climate studies. The ICC(2) is an estimate of the reliability of the aggregated means scores. We followed the guidelines developed by McGraw and Wong (1996) for calculating and evaluating the ICCs. In order to control for common method variance (see Results), we split the firm samples. The ICC(2)s were based on these split groups. The results presented in Table 3 show that the percentages of variance explained by the scales of job autonomy, external orientation, interdepartmental orientation, and human resource orientation are acceptable and that the reliabilities of their mean scores within local banking firms are high. However, the ICC(1) and ICC(2) of improvement orientation are rather low. We concluded that the perceptual agreement on four of our five firm-culture scales is high; the improvement orientation scale needs to be improved. This is possible given the vast literature and consulting practices centering on Quality or TQM. However, in hindsight, it may be that ‘improvement orientation’ is a strategically important ‘work attitude’ and not an organizational ‘work practice.’ Many of our ‘improvement’ items in the main study loaded namely moderately high on items constituting our other dimensions. We examined differences on all the dimensions between managerial and non-managerial personnel and

between three categories of employees serving different type of clients (private, industrial and internal). Analyses of variance showed that, although some mean differences were significant, they were all small ( $< .22$ ,  $N = 1509$ ). Consequently, we did not take these differences into account.

We examined our firm-culture scales in other organizational settings. In a group of 275 employees of a large Dutch electronics factory, the Cronbach alphas of our five scales, on the individual level, ranged from .72 to .84. In a sample of 560 respondents who are representative of the entire Dutch working population, thus employed in vastly different organizations, the Cronbach alphas of these scales ranged from .76 to .88. These results show that on the individual level these scales are also reliable in other samples. Because aggregated item scores tend to be very stable, high firm-level reliabilities are likely.

**Strong culture.** For exploratory purposes, we used two variants of this construct. Firstly, we measured ‘culture strength’ by calculating the degree of agreement on the existence of our ‘best’ organizational practices. The same method was used by Gordon and DiTomaso (1992): the inverse of the standard deviation of our four reliable firm culture scales (averaged, yielding one culture-strength score for each of our local banking firms). This means that agreement among a firm’s employees is used as an indication of the strength of that firm’s culture. Because small standard deviations result in very high culture-strength scores, this measure was left-skewed. Therefore, we performed a logarithmic transformation. Secondly, we measured ‘strong character’ with the following single item: ‘This organization has a strong character of its own.’ The five answer categories ranged from ‘strongly disagree’ to ‘strongly agree.’ This item was thus supposed to assess the extent to which the employees think of their organization’s culture as ‘strong.’

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Insert Table 4 about here  
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**Transformational top leadership style.** From the 24 transformational leadership items of the Multifactor Leadership Questionnaire (MLQ 8Y; Bass & Avolio, 1989), we excluded all supervisory-

leadership items. Examples are: The leadership ‘...listens to my concerns’ and ‘...makes me back up my opinions with good reasoning.’ We used the translations made by den Hartog, van Muijen, and Koopman (1994). Employees were asked: ‘To what extent does the top leadership of your local banking firm exhibit this behavior?’ The answer categories ranged from 1 (very rarely) to 5 (very often). Because this particular set of ten items had not been analyzed before, we performed exploratory factor analysis (principal-components analysis and varimax rotation) on the scores aggregated on the firm level. The results presented in Table 4 show that the ten items did indeed form one dimension. The internal consistency of this scale is high. These results are in accordance with a major Dutch study in which our first four items belong to the seven highest loading items in a one-factor solution (den Hartog, 1997). As shown in the last row of Table 3, our leadership scale has good psychometric properties. The interrater reliability of the mean scores is high (.88). Our factor analysis on the individual level yielded similar results. Nearly a quarter of the variance of the individual scores on this scale can be explained by local firm (.24). Analysis of variance showed that our firms differed significantly in the degree of transformational top leadership style. No meaningful differences on this scale were found between managerial and non-managerial employees nor between employees serving different type of clients.

In a sample of 46 small Dutch and German ICT-service firms, the Cronbach alpha of a transformational leadership scale with nine identical items was .93. We also investigated the reliability of our ten-item scale on the individual level in the two additional samples. In the Dutch electronics factory, the Cronbach alpha of this scale was .92, and in the sample representative of the entire Dutch working population, the alpha was .83.

**Objective firm performance.** Objective firm performance was expressed in one ratio. This ratio is most widely used within this financial institution and also by the Dutch Central Bank that regularly examines and compares all Dutch banking firms. A firm’s total profits in a specific year minus the return on capital is divided by the total operating costs plus depreciations. Both corrections (on profits and operating costs) are necessary because return on capital is not the result of banking activities in the

year concerned, and the depreciations of the firm's assets are costs in that year but paid earlier. A ratio of 1 means that a firm has had no profit through its regular banking activities in that year. This ratio is widely considered as the only reliable objective firm performance measure of our local banking firms. In the main study, we obtained the performance data for the years 1995 and 1997: 57 and 44 of the same local banking firms, respectively. The absence of the 1997 performance ratios for 14 of our firms was due to the fact that they were, in that period, in the process of being merged with another local banking firm. For 1995 and 1997 combined, our firms' performance ratios ranged from .97 to 1.50.

**Control variables.** Two control variables were used in the study: firm size and the mean tenure of the firm's employees (see also Koene, 1998). Long-tenured employees can be considered stable factors in a firm's culture and are less likely to be affected by top leadership. Larger firms generally tend to be more resourceful. This could mean a greater chance to apply the latest managerial insights with respect to culture and leadership. The additional firm-size data we obtained from the central office for this purpose were expressed as the number of (full-time-equivalent) employees per local banking firm.

## **Analyses**

In order to test both hypotheses, hierarchical regression analyses were performed. This method allows controlling for other variables that might explain a hypothesized relationship. The control variables of firm size and mean number of years of tenure were entered in the first step and the hypothesized independent variables in the second. Because the data on the perceptual variables were collected using only one method, viz., the questionnaire, these analyses required a correction for common method variance. The respondents from each local banking firm were randomly divided into two equal or nearly equal groups which were labelled subsample A and B (mean n's in both samples are 13.8). The scores on the four culture dimensions, firm culture, culture strength, and strong character were calculated in sample A, while transformational top leadership style was based on the scores in sample B. Four local firms with three or less respondents in one of these subsamples were eliminated. A similar method has been used by Shamir, Zakay, Breinin, and Popper (1998).

## RESULTS

The correlations between all measures are presented in Table 5. The correlations between the same measures from the two subsamples represent intergroup reliabilities and are presented between brackets on the diagonal of this table. These intergroup reliabilities, except that of the improvement-orientation scale, are acceptable. Because the within-firm agreement on this last scale is also low, the improvement orientation dimension was not used in further analyses. The intergroup reliabilities of firm culture, culture strength (both without improvement orientation), and transformational top leadership style are high. Our culture dimensions, firm culture, and culture strength do not correlate significantly with objective firm performance in 1995 and in 1997. Strong character is significantly related to objective firm performance in 1995 and not to objective firm performance in 1997. Transformational top leadership style correlates significantly with objective firm performance in both years. The correlations of each of the four constituent culture dimensions with firm culture are corrected for inclusion in firm culture. These correlations are all highly significant.

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Insert Tables 5 and 6 about here  
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Because the scores were derived from different groups of within-firm respondents, the correlations between transformational top leadership style and the other perceptual measures (presented in Table 5) cannot be affected by individual response style, the most important source of common method variance. The corrected correlations of transformational top leadership style are significantly related to job autonomy, external, interdepartmental, and human resource orientation. Thus, all reliable firm-culture scales are significantly related to our measure of firm leadership. Moreover, as expected, there is a significant association between a firm's culture and its leadership.

In order to test Hypothesis 1, transformational top leadership style was regressed on objective firm performance in 1995 and in 1997. Firm size and mean tenure of employees were entered in the first step, and firm culture and transformational top leadership style, controlled for common method

variance, were entered in the second step. The results presented in Table 6 show that, in the second step, significantly more variance in firm performance in 1995 was explained and that the relationship between transformational top leadership style and firm performance, corrected for the control variables and firm culture, is significant. More importantly, the results show that transformational top leadership style is related to firm performance in 1997, also after controlling for the other variables. This means that transformational top leadership style does indeed have predictive power with respect to firm performance. Multicollinearity of the variables proved not to be a problem since none of the correlations among the variables had an absolute value greater than .70 (Tabachnick & Fidell, 1989). Also, the condition index of our multicollinearity diagnosis did not exceed the critical value of 50. Nevertheless, we excluded the possible effects of multicollinearity between firm culture and leadership by performing the same regression analysis without firm culture in the second step; the Betas of transformational top leadership style were significant. This means that the estimations of the regression coefficients are not confounded by high correlations between the independent variables. We can conclude that our statistical analyses confirmed the first hypothesis: a highly transformational top leadership style predicts a high level of firm performance.

The results of a test of the hypothesized indirect relationship between firm culture and performance (Hypothesis 2) are also presented in Table 6. The relation between firm culture and transformational top leadership style, corrected for common method variance and controlled for firm size and mean tenure, is highly significant. Moreover, the associations between transformational top leadership style and firm performance in 1995 and 1997 are significant, while the direct relationships between firm culture and these performance measures are not significant. These results confirm the hypothesized indirect relationships between firm culture and firm performance via transformational top leadership style. Table 6 shows that introducing transformational top leadership and firm culture in the regression equations explains significantly more variance of firm performance in 1995 and in 1997. Given the fact that firm performance is affected by many factors the effect sizes are respectable.



We tested the indirect relationships between the firm-culture dimensions and firm performance by performing the same hierarchic regression analyses described above, substituting the dimensions for the summary measure of firm culture. The Betas between transformational top leadership and job autonomy, external orientation, interdepartmental orientation, and human resource orientation are .57, .50, .40, and .57, respectively, and are highly significant. The Betas between firm performance in 1995 and transformational top leadership, controlled for our culture dimensions, are .42, .34, .31, and .38, respectively, all of which values are significant at the .05 level. The Betas between firm performance in 1997 and transformational top leadership, controlled for the culture dimensions, are .34 (n.s.), .37 ( $p < .05$ ), .34 (n.s.), and .51 ( $p < .05$ ). Job autonomy and interdepartmental orientation are indirectly related to firm performance in 1995, but not in 1997. External orientation and human resource orientation are indirectly related to firm performance in 1995 and in 1997. Although all four firm-culture dimensions are indirectly related to firm performance in 1995, only external orientation and human resource orientation are predictive of firm culture in 1997 via transformational top leadership. This can be explained as follows. External orientation and human resource orientation are organizational practices contributing to the development of an organization-wide resource such as (transformational) top leadership style. Job autonomy and interdepartmental orientation are practices that are more related to issues occurring on lower levels in a hierarchy.

We assumed that the relationship between transformational top leadership style and firm performance is independent of firm culture. In order to verify this, the interaction effects of our style measure and the four culture dimensions were investigated with hierarchical regression analyses. In the first step, transformational top leadership style and one of the culture dimensions were entered into the regression and in the second step, the cross product of their standardized scores. Standardization before multiplication was performed to reduce the danger of multicollinearity. Objective firm performance (in 1995 and in 1997) was the dependent variable. In none of the eight analyses did the entering of the cross product significantly increase the percentage of variance explained in the objective performance ratios.

These results show that the relationship between transformational top leadership style and firm performance is not dependent on firm culture.

The wide use of the strong-culture notion implies a comparison with our firm-culture operationalization. The results showed that 'culture strength' is not significantly related to firm performance in 1995 and in 1997 or to transformational top leadership style. Analyses with culture strength without logarithmic transformation yielded the same results. This means that culture strength neither directly nor indirectly relate to firm performance. However, our single-item measure of 'strong character' is significantly related to transformational top leadership. We ran the same regression analyses predicated by Hypothesis 2, substituting 'strong character' for 'firm culture'. Strong character appeared to have no indirect relationships with firm performance in both years, but a significant direct relationship with firm performance in 1995 only ( $\beta = .32$ ,  $t = 2.03$ ,  $p < .05$ ). Also, strong character appeared not significantly related to culture strength, but correlated significantly with firm culture (see Table 5). These additional results support our argument that the contrived, standard-deviation measure of culture strength is not predictive of firm performance and may not be a good measure of strong culture.

## **DISCUSSION**

The present study provides evidence for an important part of the emerging resource-based theory of the firm. We showed that two intangible intrafirm resources --culture and top leadership-- are predictive of objective firm performance. Our findings are based on a representative sample of banking firms operating under the umbrella of one large financial institution in the Netherlands. The firm-culture data were based on a new instrument with good psychometric properties. For the purpose of measuring top leadership, we used a relevant part of Bass' transformational leadership scales. Our study contributes to the disentangling of the constructs of firm culture and leadership that have been treated indistinctly in many studies. Our research design controlled for quite a few variables (also due

to the fact that our legally autonomous local banking firms operate in some ways similarly) and allows for predictive inferences.

As expected, we found that firm culture is *indirectly* predictive of firm performance and directly related to transformational top leadership style. This style was found, as hypothesized, to have a direct predictive link with firm performance. The results showed that it is indeed through this particular leadership style that firm culture predicts firm performance (confirming Hypothesis 2). Hence, the content of our two ‘soft’ intrafirm resources does indeed matter for firm success (Penrose, 1959). Results of exploratory analyses with ‘strong culture’ are less positive; culture strength did not predict firm performance in 1995 and 1997. Strong character, as measured with our one item, correlated with firm performance in 1995 only. Our analyses suggest that the contrived strong-culture measures, ‘culture strength’ and ‘strong character,’ are not predictive of firm performance. Hence we seriously question the future use of the deceiving term ‘strong culture.’ Thus, instead of aiming for a ‘strong culture’ and for ‘strong leadership’ (Kotter, 1999; Liebowitz, 1998; Markides, 1998), firms seem better off aiming for less sub-optimal organizational work practices, thereby creating favorable conditions for transformational top leadership to emerge. We propose to infuse Penrose’s notion of ‘the administrative cohesion of the firm’ with the latter content (Penrose, 1995, xviii).

The most intriguing part of our findings is that the employees’ views on ‘best’ organizational practices are not *directly* related to firm performance but *indirectly* through transformational top leadership. In this way, ‘best’ organizational work practices are found to be profitable. Our results are thus remarkable in that, although the zero-order correlation between firm culture and performance is not significant, we show that there is, nevertheless, a significant association (something still touted by the popular press, see, e.g., Garmager & Shemmer, 1998), albeit indirect. This significant indirect association may have easily remained hidden in other culture-performance data sets. Most of the management world may therefore currently underestimate the significant indirect role of work-related sentiments of employees in the economic success of firms (see also, e.g., Huy, 1999; Pfeffer, 1998).

Given the fact that firm culture has been often blurred with leadership (see footnote # 2), what is thought to be organizational culture may in fact well be transformational top leadership. Our results, furthermore, make it seem unlikely that firm culture can substitute for leadership. In the practical world of work, however, it is less frightening to focus on culture (being a *tacit collective* attribute) than on the more easily identifiable powerful persons providing (top) leadership.

Our data show that it is the emotion-evoking role of transformational top leadership that can gainfully capitalize on a firm's cultural potential. The outcomes support Gary Becker's (1964: 54/55) point that investing in the emotional health of employees will pay off. Future research may show that the most important intangible resources within the firm are emotional in nature. This poses a threat to the economists' basic assumptions regarding work behavior. In this vein, we can extend our study's outcomes to the typical narrow view of organization culture that (evolutionary) economists hold (see footnotes 1 and 5). Teece, Pisano, and Shuen (1997: 272), for instance, refer to Nelson and Winter's 'organizational routines' as the 'skills of an organization.' They state that this is not quite the same as corporate culture. They are right, but not complete. We submit that only when one captures *the employees' perspective on the degree of optimization of existing organizational routines* is the corporate-culture construct there. We think that it is not the knowledge of organizational routines per se. It is the tacit, emotional reaction to organizational practices and to leadership that matters. Hence, our results are important for an evolutionary theory that would take as its dependent variable 'firm performance differences' (Nelson, 1991). Organization-science knowledge may thus become in demand by (evolutionary) economists. Oliver Williamson, albeit informally, already acknowledges the importance of both our tacit intrafirm variables: culture and leadership. In his discussion of 'inferior organization and maladapted operations,' Williamson (1996: 311) endorses the study of such 'formidably complex work settings.' And he provides a reorganization example '...that eliminates unneeded bureaucrats and wasteful bureaucratic practices' (Williamson 1996: 310, underlining ours).

We believe that more evidence confirming the resource-based theory of the firm will force more economists to look differently through the windows of their own organizational black box.

Coming back to anchors underpinning our present study, we conclude that Schein's insight regarding the importance of firm culture and leadership for a firm's effectiveness is underscored by our empirical study. In terms of the conditions spelled out by Barney for a firm's culture to provide a sustained competitive advantage, we indicate that firm culture (as the degree to which the employees view existing organizational work practices as optimal) is indeed 'valuable' for a firm. Our results are in accordance with his insight that especially top management can create firm value. Specifically, we suggest that in the eyes of employees the style of such management must be transformational (i.e., both visionary and highly competent). This is different from working long hours ('hard') and from being (objectively) 'smart' (Bennis, 1999). Because the content of our notion of firm culture and of top leadership differs from that of Barney, the normative implications of our results differ from his (see also Mosakowski, 1998). If 'best' organizational work practices were to be applied to our firms' direct competitors, would they lose their predictive power and make these firms' cultures less rare? Yes, for our 'best' practices are in principle imitable. But if firms' organizational work practices were optimized, employees would have more energy left over for being uniquely valuable/competitive in their core business. This would be a desirable development. In other words, if the organizational work practices of a group of competing firms were optimized, these firms would compete more on opportunities or strategic and leadership issues. If the transformational style of top leadership were to become the standard across the competing firms (say, due to the availability of excellent training), then of course also less of this behavioral style of top leadership would predict these firms' performances. Clearly, implementing these conditions would take quite some time, even though consulting companies are, in principle, catalysts in the application of such managerial knowledge. They could do this work even faster, if (academic) management researchers were (more enabled) to reduce the limitations connected to their research.

One limitation of the present study pertains to the small sample size. It restricted, for example, the number of control variables used. Our relatively homogenous sample of firms offset this limitation in part. In this study, the role of the local competitive environments of our banking firms was not taken into explicit consideration. Miller and Shamsie (1996: 519) found, for example, that in high-fluctuating environments, the performance effect of ‘production and coordinative talents’ is more important than in low-fluctuating environments where ‘property-based resources’ contribute more to a firm’s bottom-line. In future studies with our three central variables, this finding would need to be incorporated into the research design. Such work would allow us to establish the incremental validity of our two intangible resources vis-à-vis tangible intrafirm resources. An equally important limitation of the present study is that we were permitted to measure firm culture and transformational top leadership only once and at the same point in time. Although their interrelationship was not the central focus of the study (their disentangling, in fact, seemed more necessary), this limitation kept us from addressing their relation in more detail. Although we address in this study that firm culture affects firm performance (via transformational leadership), reversed effects are not disputed. How and under which circumstance transformational top leadership successfully affects firm culture is a major avenue for future academic work.

Our study introduced a new instrument for assessing a firm’s culture. A drawback of the instrument is that it implies the investment of time of a relatively large number of employees. But the same applies to all meaningful quantitative or qualitative representations of this complex variable. Current ICT and intranet-developments within organizations may reduce this lack-of-time issue. In terms of the content of our firm-culture tool, the aim of our next round of instrument development is to enhance its breadth and generality. This would entail an ethnographic effort across various organizational types and further comparisons with similar instruments. Future work thus needs to elaborate on the construct validity of the instrument. Ultimately, the field needs an instrument that is not only conceptually clear and meaningful but also valid across industries (Chatman & Jehn, 1994)

and national cultures (Dickson, Aditya, & Chhokar, 2000). Given the worldwide use of the construct of organizational culture and the considerable human effort involved in culture data collection, we need to obtain more consensus on what it is that we ought to measure and how. Obtaining more scholarly consensus on organization-culture measurement will contribute to the validity of the instruments with which organizational/firm cultures are assessed. Thus, given the great variety of organizational-culture scales around, consolidation of firm-culture instruments is needed, or else the construct runs the risk of extinction which in turn may hamper the quest for constructs related to firm-performance differences.

Despite the unique, historically determined corporate governance structure of the Dutch banking firms involved, we successfully captured transformational top leadership style with a universalistic, American-made measure. More than half of the items in this measure is directed at assessing leaders in the eyes of their direct subordinates. Because of our use of a representative sample of within-firm respondents, these items were deleted. We wonder to what extent all ‘best’ top-leadership behaviors are included in our measure. In order to answer this question, we would like to make three points. First, for the Netherlands, the recent Euro-Globe project (Brodbeck et al., 2000) found five additional highly ranked leadership attributes: Integrity, Team integrator, Participative and Decisive but Non-autocratic (in addition to Visionary, Inspirational, and Performance). We may need to incorporate the additional five attributes in a next Dutch study of transformational leadership. Secondly, Daft (1992) is one of the few authors who explicitly associates transformational leadership with the ‘institutionalization of change.’ We wonder whether our questionnaire of transformational top leadership style would be more inclusive if we added attributes necessary for changing organizations continuously, something that is increasingly relevant in organizational lives today and not emphasized in the extant measure. Thirdly, authors on paradoxical leadership echo Gary Yukl’s view (1998, 5) that ‘the nature of managerial work...usually involve both task and relations issues.’ ‘An effective manager will select behaviors that accomplish task and relations simultaneously.’ Especially highly effective top leaders are able to reconcile the seemingly conflicting demands (such as results/tasks *and*

relationship/people orientation) that are typically placed on them (see also Davis, Schoorman, & Donaldson, 1997; Denison, Hooijberg, & Quinn, 1996; Hart & Quinn, 1993). One may argue, therefore, that especially top leaders who are seen to display such integrative skills while being both visionary and highly competent are most effective. This specific integrative ability needs more explicit attention in a future measure of transformational top leadership style.

The results of this study, which underscore the importance of transformational top leadership style, raises four related questions. First, does transformational leadership style at the top gainfully promote the same style lower in the hierarchy (and vice-versa)? Secondly, does transformational leadership style when displayed at the middle and lower levels of a firm add to our prediction of bottom-line firm performance? Thirdly, if transformational leadership style is found only at some lower hierarchical level, will the departmental culture involved be an especially high-performing culture? Finally, when compared to the typically more easily observable variables studied in the context of upper-echelon theory, does our behavioral-style variable hold up?

In terms of our dependent variable, future similar studies need to capture short- and long-term firm performance; testing a variety of reliable indicators of (sustainable) firm performance is likewise certainly desirable. The implied broader longitudinal assessments, especially if accompanied by field experiments, introducing transformational leadership, firm culture, and performance in pre- and post-tests, enable the examination of causal hypotheses; the results of our study certainly encourage such an undertaking.

Finally, firm performance, leadership, and culture have generally been studied separately by scholars from different sub-disciplines (Strategy, Organizational Behavior, and Organization Theory, respectively). Given the mainly monodisciplinary approach to these variables, our study may be called interdisciplinary and is hopefully one of many more to come (Schein, 1996). On top of our own future research agenda is a creative replication of Hansen and Wernerfelt's 'integrated examination of firm profitability' (1989: 399) where intangible and tangible within-firm *and* external-firm resources are



tested against each other. In light of the outcomes of the present study, leadership or authority is not likely to be reduced 'to the sanctions that support it,' nor will we understand intrafirm 'economic behavior solely as an outcome of cultural beliefs' (Freeland, 1999: 192). Generating a new firm-level database, which includes various relevant external and internal resources, would be a challenging undertaking. It would bridge the inner and outer sides of the organizational 'box' and would, therefore, need to include quite a broad spectrum of variables. It would link three fields: Economics, Strategy, and Organization Science. Some on these 'islands' (Fiol, 1991) will view this proposal as a 'bridge too far.' Our present study on firm leadership, culture, and performance gave us a sense for connecting three islands with one bridge. Viewed from a different perspective, some would call these islands: 'hard and smart working managers,' 'incentive structure,' and 'rents.' Others, Peters and Waterman, for instance, had named them: 'good managers,' (make) 'meanings for people,' (as well as) 'money' (1982: 29, the paraphrasing is ours). Our engineers call them 'transformational leadership,' 'firm culture,' and 'performance.' But once a bridge connects islands, things will never be the same. Most importantly, our project has illustrated that Organization Science (i.e., especially Organization Theory and Organizational Behavior) can provide the knowledge needed to strengthen the resource-based theory of the firm. We established two separate intangible intrafirm resources (firm culture and top leadership) as providers of a meaningful firm service (Penrose, 1959; 1995) and as predictors of firms' performances.

## FOOTNOTES

<sup>1</sup>Her narrow strong normative-control interpretation of culture is typical of economists, contrasting this form of firm control with 'market control' (see also Barney, 1991; Camerer & Vepsäläinen, 1988; and Fiol, 1991). As early as 1983, Wilkins and Ouchi (469) differentiated strong 'local organizational cultures' or 'clan control' from 'more generally shared background cultures.' Clan or normative control is often found in voluntary organizations (see, e.g., O'Reilly & Chatman, 1996), sometimes in firms (see, e.g., Kunda, 1992) and has a much more specific focus than we have here: any firm's ('background') culture.

<sup>2</sup>For instance, Marcoulides and Heck's (1993: 223) operationalizations of culture contain elements like 'the extent to which managers take personal interest in the welfare and performance of their employees;' and 'the extent to which employees perceive that management involves them in the decision-making process.' Calori and Sarnin (1991: 67-68) even operationalize culture as management practices. Examples of their culture items with a leadership content include: 'employees' needs are taken care of' and 'long-term implications of decisions are considered.' One of the three items of 'employee orientation' in Koene's study (1996) is 'management is generous with little things.' The organizational-culture operationalization from Hofstede et al.'s (1990) (from which Koene derived his items) contains even more items that explicitly refer to leadership behavior (see also Table 2 in Hofstede, Harris Bond, & Luk, 1993). More explicit examples of merging both constructs can be found, for instance, in operationalizations of culture in Ashkanasy, Broadfoot and Falkus (2000), Hall (1993) and Harris and Mossholder (1996). Moreover, the degree to which leadership items contain cultural content is also an issue that needs attention. In organization-climate research, we also note the problem of having leadership included in item-and-dimension descriptions (e.g., Kopelman, Brief, & Guzzo, 1990: 296).

<sup>3</sup>Examples are: a firm's invisible structure; implicit cultural contracts; tacitly understood rules; broad cultural rules; distinctive or core competence; organizational capabilities; firm-specific assets; moral codes; a firm's motivational resources; organizational processes/context; a collective learning system; coordination of production skills; dominant logic; coordinative routines; coordinative management process; critical decision-making; behavioral regularities; knowledge-based resources/assets/skills; entrepreneurial resources; managerial ability; organizational character or code; routinization of activity; style of organization. Many of these terms, and others like them, can be found in Foss (1997). These terms do not seem to fit the construct-space of culture and/or leadership exactly; some include both the culture and leadership function.

<sup>4</sup>Vaill, in an edited volume, almost misleadingly entitled 'Leadership and organizational culture' (1984) argues (on the basis of his consulting practice) that managerial style is not a determining factor for high performance. Our use of the term style is different in that it is not the classical one-dimensional behavioral tendency such as autocratic vs. democratic, warm vs. cold, and considerate vs. task-oriented. We view style as complex behavior comprised of various attributes (see also Nahavandi & Malekzadeh, 1993).

<sup>5</sup> Even economists are starting to use the term culture strength. But they tend to operationalize it entirely differently. Carrillo and Gromb (1999), for instance, use it as the interaction between speed of culture change and amount of investment cost.

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TABLE 1

## A Comparison of Our Firm-Culture Dimensions with Those of Four Other Studies

				Dimensions of Present Study				
Hofstede, Neuijen, Ohayv & Sanders (1990)	O'Reilly, Chatman & Caldwell (1991)	Gordon & DiTomaso (1992)	Denison & Mishra (1995)	Job Autonomy	External Orientation	Inter- departmental Orientation	Human Resource Orientation	Improvement Orientation
Process vs. results oriented	Results oriented	Action oriented		- <sup>a</sup>	+	-	+	+
Employee vs. job oriented	People oriented			+	-	-	++	-
Parochial vs. professional	Team oriented	Fairness of rewards	Involvement	+	-	+	+	+
Open vs. closed system	Aggressive vs. easy going	- Integration/communication - Development/promotion from within		-	+	+	+	-
Loose vs. tight control	- Detail oriented - Stability	- Accountability - Systematic decisionmaking	Consistency	++	-	-	-	-
Normative vs. pragmatic	Innovation oriented	Innovation/risk taking	Adaptability	+	+	-	-	++
		Clarity of strategy/shared goals	Mission	-	+	-	-	+

<sup>a</sup> - = hardly any overlap, + = some overlap, and ++ = much overlap.

TABLE 2

Results of Factor Analysis on Aggregated Firm-Culture Items<sup>a</sup>

Items	Factor				
	1	2	3	4	5
Job autonomy					
1. Room for non-managerial employees to make their own decisions	.88	.11	.09	.06	.24
2. Freedom for employees to depart from rules	.87	.05	.05	.03	.11
3. Freedom for employees to implement decisions according to their own views	.84	.13	.20	-.08	.18
4. Employees influence important decisions concerning work	.74	.35	.11	.28	.09
5. Freedom for employees to plan their own work	.74	-.11	.13	.17	.26
6. The opportunity for employees to bring forward ideas before decisions are made	.74	.35	.11	.28	.09
External orientation					
1. Active canvassing of new customers	-.03	.84	.14	.03	.16
2. Investigation of the wishes and needs of customers	.13	.83	.13	.11	.20
3. Working to improve the local market position	.13	.82	.02	.20	.08
4. Quick reaction to developments in the market	.18	.81	.16	.25	.04
5. Thorough training of employees in systematically gathering information on what customers want to see improved	.02	.72	.13	.24	.40
6. Having an edge over local competitors	.31	.63	.40	-.01	-.18
Interdepartmental orientation					
1. Exchange of useful information between departments	.23	.13	.85	.14	.15

2. Useful cooperation between departments	-.08	.19	.85	.14	.01
3. Departments support one another in the resolution of problems	.20	.19	.77	-.08	.38
4. Mutual communication between heads of departments	.39	.15	.53	.40	-.05
Human resource orientation					
1. Performance appraisals are taken seriously	.07	.16	-.06	.92	.05
2. Employees obtain useful information about their own functioning	.11	.33	.12	.77	.25
3. Careful selection of new personnel	.19	.12	.30	.76	.02
Improvement orientation					
1. Employees closely monitor their own way of working	.21	.13	.09	.07	.81
2. Employees' search for possibilities to improve the organization	.34	.25	.18	.08	.71
3. Initiatives taken by employees to improve the way in which the work is done	.40	.15	.07	.15	.67
Eigenvalue	4.64	4.25	2.79	2.68	2.35
Percentage of variance explained	21%	19%	13%	12%	11%

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<sup>a</sup> N = 58.



TABLE 3

Internal Consistencies, ICC(1)s, ICC(2)s, and F-values of Perceptual Variables

Variable	$\alpha^a$	ICC(1) <sup>b</sup>	ICC(2) <sup>b</sup>	F <sup>b</sup>
Job autonomy	.93	.16	.72	4.74***
External orientation	.91	.22	.80	7.08***
Interdepartmental orientation	.86	.14	.67	4.22***
Human resource orientation	.83	.16	.75	4.75***
Improvement orientation	.81	.07	.51	1.76***
Firm culture	--	.17	.74	5.13***
Strong character	--	.18	.75	5.51***
Transformational top leadership style	.95	.25	.89	8.44***

<sup>a</sup> Based on aggregated scores; N = 58.<sup>b</sup> Based on individual scores; N = 1509.

\*\*\* p &lt; .001

TABLE 4

Results of Factor Analysis on Aggregated Transformational Top Leadership Style Items<sup>a</sup>

Item	Factor
1. Has the image of ability in word and deed	.96
2. Shows an extraordinary ability in everything they undertake	.94
3. Gives employees the feeling that management can handle any obstacle	.93
4. Makes a powerful impression	.91
5. Creates a common feeling of working on an important mission	.89
6. Promulgates a clear vision on future options	.84
7. Instills perfect trust	.83
8. Makes employees aware of important common values, aspirations, and ideals	.81
9. Speaks optimistically about the future	.60
10. Shows itself to be strongly convinced of their own opinions and values	.51
Eigenvalue	6.96
Percentage of variance explained	70%

<sup>a</sup> N = 58.

TABLE 5  
Correlations Among Variables and Statistics

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12
1. Firm size <sup>a</sup>	58.22	44.14												
2. Mean tenure <sup>a</sup>	9.81	2.05	.08											
3. Job autonomy <sup>a</sup>	2.76	.29	-.34*	.22	(.71)									
4. External orientation <sup>a</sup>	3.03	.31	-.03	.25	.42**	(.80)								
5. Interdepartmental orientation <sup>a</sup>	2.97	.27	-.33*	.02	.43**	.40***	(.60)							
6. Human resource orientation <sup>a</sup>	3.08	.37	-.17	.08	.37***	.51***	.33**	(.63)						
7. Improvement orientation <sup>a</sup>	2.82	.19	-.15	.15	.45***	.45***	.45***	.42**	(.26)					
8. Firm culture <sup>a</sup>	2.93	.21	-.28*	.19	.51***	.59***	.48***	.52***	.60***	(.70)				
9. Culture strength <sup>a</sup>	.60	.19	-.28*	.31*	.38**	.18	.57***	.25**	.31*	.44***	(.76)			
10. Strong character <sup>a</sup>	3.57	.43	-.10	.13	.29*	.48***	.23	.16	.03	.40**	.10	(.64)		
11. Transformational top leadership style <sup>a</sup>	2.99	.37	.02	.15	.49***	.53***	.35**	.46***	.27	.59***	.11	.52***	(.82)	
12. Firm performance 1995 <sup>b</sup>	1.20	.09	-.04	-.01	-.01	.09	.09	.05	-.24	.02	.05	.38**	.29*	
13. Firm performance 1997 <sup>c</sup>	1.23	.10	-.01	.12	.21	.13	.14	-.02	-.11	.10	.21	.23	.34*	.39*

<sup>a</sup> N = 54. <sup>b</sup> N = 53. <sup>c</sup> N = 43.

\* p < .05. \*\* p < .01. \*\*\* p < .001

TABLE 6

## Results of Hierarchic Regression Analyses

Variable	<u>Firm performance 1995<sup>a</sup></u>		<u>Firm performance 1997<sup>b</sup></u>		<u>Transformational top leadership style<sup>c</sup></u>	
	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$
Step 1: Control variables		.00		.02		.02
Firm size	-.04		-.03		.01	
Mean tenure	-.00		.13		.15	
Step 2: Independent variables		.12*		.13 <sup>†</sup>		.39***
Firm culture	-.25		-.21		.67***	
Transformational top leadership style	.46*		.47*		--	
$R^2$	.12		.15		.41	

<sup>a</sup> N = 53.<sup>b</sup> N = 43.<sup>c</sup> N = 54.<sup>†</sup> p < .10. \* p < .05. \*\*\* p < .001